Warm-up to the side.

Take out the 2 assignments from Thursday and Friday!

1. $\times 4$ $32x + 12y = 20$
$\times -3$ $-15x - 12y = -54$
$17x = -34$
$x = -2$
$y = 7$ ②

$5(-2) + 4y = 18$
$4y = 28$
$y = 7$

$x = 12 - 5y$
$3(12 - 5y) - 4y = 17$
$36 - 19y - 4y = 17$
$-19y = -19$
$y = 1$
$x = 7$

Graphing Planes in Three-Space

$$Ax + By + Cz = D$$

2 variables the graph is a line

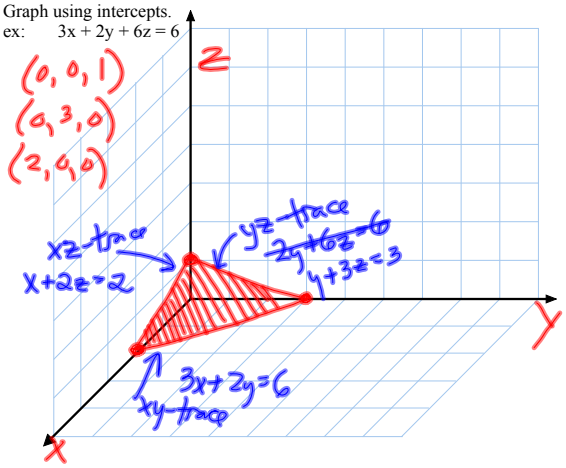
3 variables the graph is a plane

Click shape to go to website

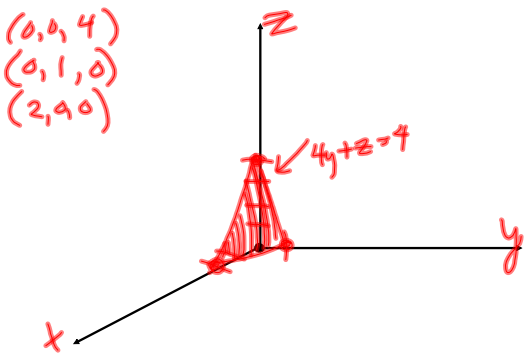
Example
$2x + 2y + z = 8$

$(1,1,4)$ $(0,4,0)$ $(-4,8,0)$
$(2,2,0)$ $(0,0,8)$ intercepts
$(2,1,2)$ $(3,3,-4)$
$(4,0,0)$ $(\frac{1}{2},\frac{1}{2},6)$
$(-2,4,4)$

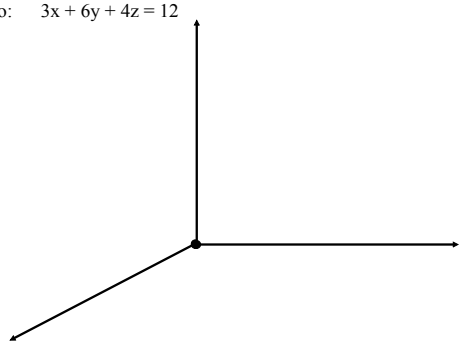
Graph using intercepts.
ex: $3x + 2y + 6z = 6$



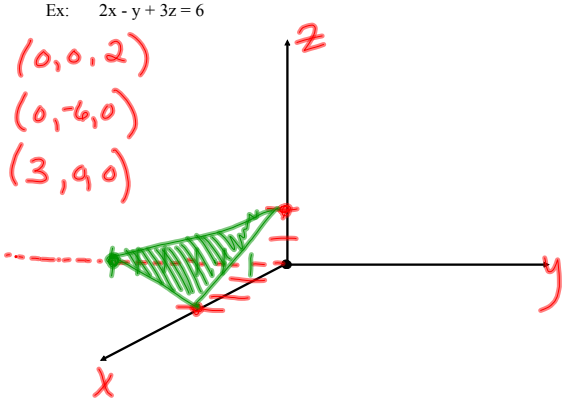
Ex: $2x + 4y + z = 4$



Do: 3x + 6y + 4z = 12

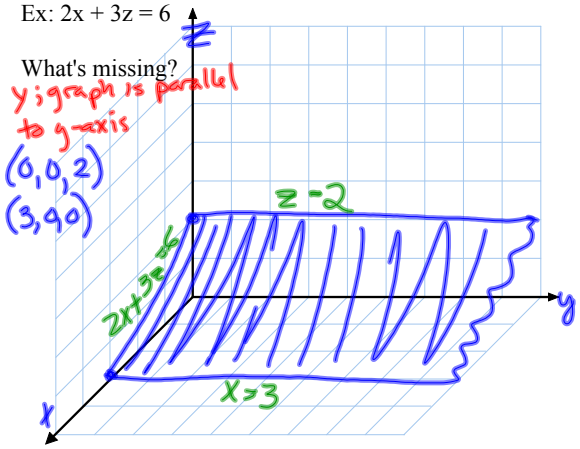


Ex: 2x - y + 3z = 6

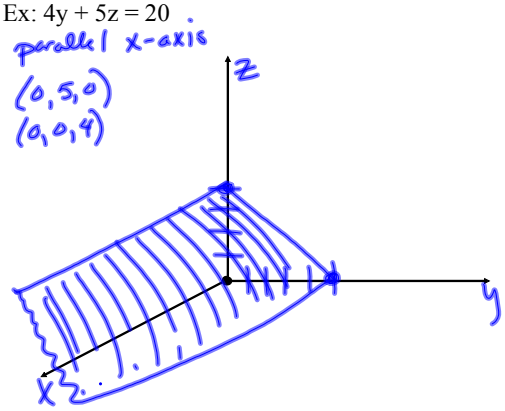


Ex: 2x + 3z = 6

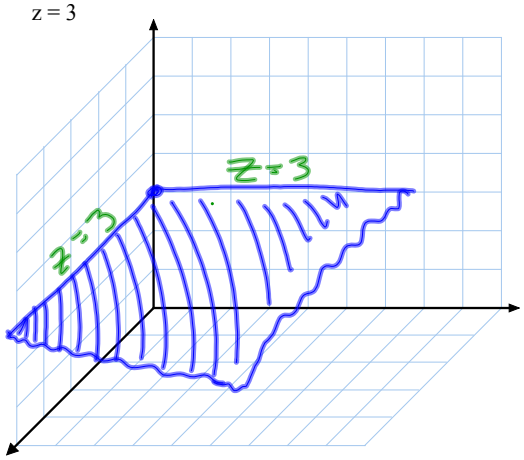
What's missing?



Ex: 4y + 5z = 20



Ex: z = 3



Ex: 6x - 5y = 0